

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P583991

Luminaire Tested: **HC820D010-HM80520830-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583991
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC820D010-HM80520830-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2061.8 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

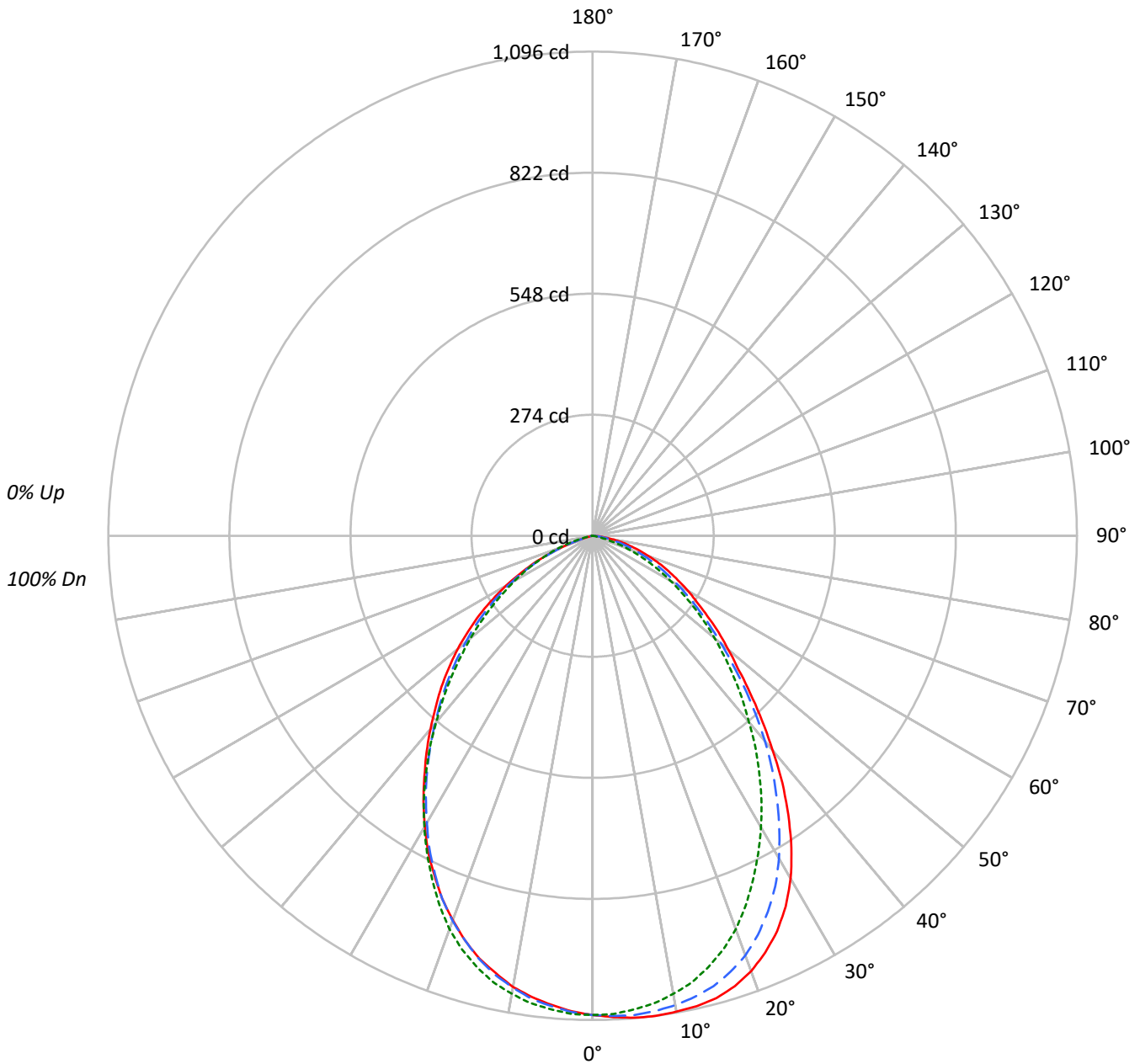
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77																			
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67																			
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59																			
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	33451	33451	33451
5°	33895	33313	32997
10°	34243	32968	32474
15°	34587	32275	31630
20°	34413	31086	30371
25°	33609	29220	28829
30°	31921	27125	27025
35°	29061	24751	24969
40°	25481	22152	22973
45°	21979	19707	21098
50°	19247	17299	19108
55°	17053	14870	16822
60°	15369	12507	13938
65°	13841	10040	10675
70°	12144	7312	5869
75°	10353	3801	1549
80°	7973	1030	249
85°	5130	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.4	5.0
10°-20°	287.7	14.0
20°-30°	408.4	19.8
30°-40°	429.9	20.9
40°-50°	365.7	17.7
50°-60°	264.3	12.8
60°-70°	150.3	7.3
70°-80°	47.4	2.3
80°-90°	5.8	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	798.5	38.7
0°-40°	1228.4	59.6
0°-60°	1858.4	90.1
0°-90°	2061.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2061.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1085	1085	1085	1085	1085	
5°	1095	1089	1076	1069	1066	104
15°	1083	1056	1011	992	991	305
25°	988	938	859	844	847	452
35°	772	727	658	653	663	480
45°	504	485	452	464	484	392
55°	317	294	277	292	313	286
65°	190	164	138	136	146	188
75°	87	67	32	14	13	94
85°	14	9	0	0	0	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8
2.5°	1090.6	1092.0	1089.2	1089.2	1092.0	1089.2	1090.6	1090.6	1089.2	1089.2	1087.8
5°	1095.0	1093.6	1093.6	1093.6	1095.0	1092.0	1090.6	1092.0	1089.2	1089.2	1089.2
7.5°	1096.4	1096.4	1095.0	1093.6	1093.6	1093.6	1092.0	1090.6	1089.2	1086.3	1084.8
10°	1093.6	1093.6	1095.0	1092.0	1092.0	1089.2	1089.2	1086.3	1086.3	1083.4	1079.0
12.5°	1090.6	1089.2	1089.2	1086.3	1086.3	1083.4	1083.4	1079.0	1077.6	1073.3	1068.9
15°	1083.4	1082.0	1079.0	1077.6	1076.2	1074.7	1071.8	1070.4	1066.0	1060.3	1055.9
17.5°	1068.9	1067.5	1066.0	1063.1	1060.3	1058.8	1057.3	1052.9	1047.1	1042.9	1035.6
20°	1048.7	1047.1	1047.1	1042.9	1041.3	1037.1	1035.6	1029.8	1025.5	1016.8	1011.0
22.5°	1021.1	1022.5	1019.7	1016.8	1013.9	1009.5	1006.6	1000.8	993.6	985.0	977.6
25°	987.8	989.2	986.4	983.4	979.2	976.2	973.4	964.6	957.4	947.3	938.5
27.5°	945.8	945.8	945.8	942.9	935.7	934.3	931.3	922.7	912.5	903.8	895.1
30°	896.5	895.1	895.1	890.8	887.9	882.1	877.8	870.5	863.2	853.0	843.0
32.5°	837.2	838.6	834.3	831.4	827.0	827.0	821.3	815.5	806.7	796.7	786.5
35°	772.0	773.5	770.5	769.1	761.8	760.4	759.0	751.8	746.0	738.6	727.0
37.5°	705.4	703.9	702.5	702.5	698.1	695.3	692.3	688.0	679.3	673.5	667.7
40°	633.0	633.0	633.0	631.5	630.0	627.2	625.8	622.8	617.0	611.2	606.8
42.5°	567.7	567.7	566.3	564.9	561.9	563.5	560.5	557.7	551.9	547.5	544.5
45°	504.0	504.0	504.0	505.5	502.6	498.2	498.2	495.4	492.4	489.6	485.2
47.5°	447.5	451.9	449.0	447.5	449.0	443.2	443.2	440.3	437.5	434.5	428.7
50°	401.2	401.2	401.2	398.3	396.9	396.9	392.5	389.6	388.2	385.3	379.4
52.5°	359.2	356.3	356.3	354.8	353.4	350.5	350.5	347.6	341.8	338.9	334.6
55°	317.2	317.2	315.7	314.3	312.9	311.5	309.9	305.7	302.7	298.3	294.1
57.5°	279.5	282.4	281.0	278.1	275.2	275.2	272.3	269.4	265.0	260.7	256.4
60°	249.2	247.6	247.6	246.2	243.4	241.8	240.4	236.0	231.8	227.4	223.0
62.5°	217.3	217.3	217.3	214.4	211.5	210.0	208.6	205.7	199.9	195.5	192.7
65°	189.7	188.3	186.9	185.3	183.9	181.1	179.5	176.7	172.3	168.0	163.7
67.5°	162.2	160.8	160.8	159.3	155.0	153.5	153.5	149.2	144.8	140.5	136.2
70°	134.7	134.7	134.7	131.8	130.4	129.0	127.4	124.6	120.2	115.8	111.6
72.5°	111.6	110.0	110.0	108.6	104.3	102.8	101.4	98.5	94.1	91.3	88.3
75°	86.9	86.9	85.5	84.0	82.5	81.1	79.7	76.7	72.5	68.1	66.7
77.5°	66.7	65.1	65.1	63.7	60.9	59.3	59.3	56.5	52.1	49.3	46.3
80°	44.9	46.3	44.9	43.5	42.0	40.5	39.1	37.7	34.8	31.9	29.0
82.5°	27.5	29.0	27.5	27.5	26.1	24.6	24.6	21.7	20.3	18.8	17.4
85°	14.5	14.5	14.5	14.5	13.0	13.0	13.0	11.6	10.2	8.7	8.7
87.5°	4.4	5.8	4.4	4.4	4.4	4.4	4.4	4.4	3.0	3.0	3.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8
2.5°	1089.2	1087.8	1086.3	1086.3	1086.3	1086.3	1086.3	1084.8	1083.4	1083.4	1083.4
5°	1086.3	1086.3	1086.3	1084.8	1083.4	1083.4	1080.5	1079.0	1077.6	1076.2	1074.7
7.5°	1083.4	1080.5	1079.0	1077.6	1076.2	1076.2	1073.3	1070.4	1070.4	1067.5	1064.6
10°	1074.7	1073.3	1070.4	1067.5	1066.0	1064.6	1061.7	1057.3	1055.9	1052.9	1050.1
12.5°	1064.6	1061.7	1058.8	1052.9	1051.5	1050.1	1044.3	1039.9	1037.1	1035.6	1028.3
15°	1051.5	1045.7	1041.3	1034.1	1032.7	1029.8	1025.5	1021.1	1015.3	1011.0	1008.1
17.5°	1028.3	1022.5	1015.3	1008.1	1005.2	1005.2	998.0	992.2	985.0	982.0	976.2
20°	1000.8	993.6	987.8	979.2	974.8	970.4	966.0	957.4	951.6	947.3	940.0
22.5°	969.0	958.8	951.6	942.9	935.7	931.3	924.1	916.9	909.5	905.3	899.5
25°	928.5	919.7	908.1	899.5	895.1	889.3	880.6	873.4	866.2	858.8	856.0
27.5°	883.5	872.0	861.8	851.6	847.3	843.0	832.8	824.1	818.3	811.1	808.3
30°	834.3	822.7	811.1	802.5	798.1	790.9	785.1	774.9	767.7	761.8	754.6
32.5°	777.8	769.1	759.0	746.0	743.0	737.2	728.6	724.2	715.5	711.2	705.4
35°	717.0	711.2	701.0	690.9	686.5	683.7	676.5	667.7	661.9	657.5	654.7
37.5°	659.0	651.8	641.6	634.4	631.5	627.2	618.4	614.2	608.4	605.4	599.6
40°	596.8	589.5	582.3	577.9	573.5	570.7	564.9	560.5	554.7	550.3	548.9
42.5°	535.9	531.5	525.8	520.0	518.5	514.2	511.3	507.0	502.6	501.2	496.8
45°	480.8	476.5	470.7	464.9	463.5	460.6	459.1	454.8	451.9	451.9	451.9
47.5°	425.9	421.5	415.7	412.8	414.3	408.5	408.5	407.0	404.1	404.1	405.5
50°	376.6	370.8	369.4	366.4	363.6	360.6	362.0	357.8	357.8	360.6	359.2
52.5°	330.3	324.5	323.0	320.1	318.7	318.7	317.2	317.2	315.7	317.2	317.2
55°	288.3	283.9	281.0	278.1	276.6	276.6	276.6	275.2	273.8	276.6	278.1
57.5°	250.6	249.2	246.2	241.8	240.4	239.0	237.6	237.6	237.6	237.6	239.0
60°	217.3	214.4	211.5	207.1	207.1	205.7	204.2	202.8	202.8	202.8	202.8
62.5°	188.3	183.9	179.5	176.7	175.3	173.8	172.3	169.5	169.5	169.5	169.5
65°	159.3	155.0	152.1	149.2	146.3	146.3	143.4	142.0	139.0	137.6	134.7
67.5°	131.8	129.0	126.0	121.6	120.2	118.8	115.8	114.4	110.0	108.6	107.2
70°	107.2	102.8	100.0	97.0	95.6	92.7	89.8	86.9	84.0	81.1	78.2
72.5°	84.0	79.7	76.7	73.9	70.9	70.9	66.7	63.7	59.3	56.5	52.1
75°	62.3	57.9	55.1	50.7	49.3	47.8	43.5	40.5	36.2	31.9	29.0
77.5°	42.0	39.1	36.2	31.9	29.0	29.0	24.6	21.7	18.8	14.5	13.0
80°	26.1	23.2	20.3	17.4	17.4	14.5	13.0	10.2	7.2	5.8	4.4
82.5°	14.5	13.0	11.6	8.7	8.7	7.2	5.8	4.4	3.0	1.4	1.4
85°	7.2	5.8	4.4	4.4	3.0	3.0	3.0	1.4	1.4	0.0	0.0
87.5°	3.0	1.4	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8
2.5°	1082.0	1082.0	1080.5	1080.5	1080.5	1079.0	1080.5	1079.0	1079.0	1079.0	1080.5
5°	1076.2	1073.3	1073.3	1071.8	1071.8	1070.4	1071.8	1070.4	1068.9	1067.5	1068.9
7.5°	1064.6	1061.7	1060.3	1058.8	1058.8	1058.8	1057.3	1055.9	1057.3	1052.9	1055.9
10°	1048.7	1047.1	1044.3	1042.9	1041.3	1042.9	1041.3	1038.5	1038.5	1038.5	1037.1
12.5°	1028.3	1025.5	1024.0	1022.5	1019.7	1019.7	1021.1	1018.2	1018.2	1015.3	1015.3
15°	1003.8	1000.8	998.0	998.0	995.0	995.0	993.6	993.6	992.2	990.8	990.8
17.5°	973.4	969.0	966.0	967.6	966.0	964.6	964.6	961.8	960.3	961.8	961.8
20°	937.1	934.3	931.3	932.7	929.9	928.5	929.9	925.5	926.9	926.9	926.9
22.5°	896.5	895.1	890.8	890.8	887.9	886.4	887.9	887.9	889.3	887.9	887.9
25°	851.6	848.8	845.8	845.8	844.4	843.0	844.4	845.8	844.4	845.8	845.8
27.5°	803.9	799.5	799.5	796.7	796.7	798.1	796.7	798.1	799.5	799.5	802.5
30°	751.8	750.2	748.8	747.4	747.4	748.8	748.8	748.8	750.2	753.2	753.2
32.5°	702.5	699.6	696.7	696.7	699.6	698.1	699.6	699.6	702.5	702.5	705.4
35°	648.9	648.9	646.0	647.4	647.4	647.4	647.4	650.3	653.2	654.7	657.5
37.5°	599.6	595.3	596.8	596.8	598.2	596.8	601.0	601.0	604.0	604.0	606.8
40°	546.1	546.1	547.5	546.1	547.5	547.5	550.3	553.3	554.7	557.7	559.1
42.5°	495.4	498.2	495.4	496.8	498.2	499.7	501.2	502.6	508.4	511.3	515.6
45°	449.0	450.5	451.9	453.3	451.9	454.8	456.3	459.1	463.5	464.9	466.4
47.5°	404.1	405.5	407.0	408.5	408.5	411.3	412.8	415.7	418.5	420.1	421.5
50°	360.6	363.6	365.0	365.0	366.4	369.4	372.2	372.2	375.2	379.4	381.0
52.5°	321.5	321.5	324.5	325.9	327.3	327.3	331.7	333.1	334.6	337.5	340.4
55°	278.1	282.4	283.9	283.9	286.8	289.7	291.1	292.5	292.5	298.3	298.3
57.5°	240.4	241.8	244.8	244.8	244.8	249.2	249.2	252.0	253.4	255.0	257.8
60°	202.8	205.7	205.7	207.1	205.7	208.6	210.0	212.9	214.4	215.8	217.3
62.5°	168.0	168.0	169.5	169.5	169.5	169.5	172.3	172.3	175.3	176.7	178.1
65°	134.7	134.7	134.7	134.7	134.7	134.7	134.7	134.7	136.2	136.2	139.0
67.5°	104.3	102.8	100.0	101.4	100.0	100.0	98.5	98.5	100.0	100.0	102.8
70°	75.3	73.9	70.9	70.9	69.5	68.1	66.7	65.1	63.7	63.7	63.7
72.5°	49.3	46.3	42.0	40.5	40.5	37.7	34.8	33.3	33.3	33.3	33.3
75°	24.6	21.7	18.8	17.4	17.4	14.5	16.0	14.5	14.5	14.5	14.5
77.5°	10.2	7.2	5.8	5.8	5.8	4.4	4.4	4.4	4.4	4.4	4.4
80°	3.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P583991

CATALOG NUMBER: HC820D010-HM80520830-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8	1084.8
2.5°	1079.0	1079.0	1076.2	1077.6	1077.6	1077.6	1077.6	1077.6
5°	1066.0	1067.5	1066.0	1067.5	1067.5	1066.0	1066.0	1066.0
7.5°	1052.9	1054.5	1052.9	1054.5	1054.5	1054.5	1052.9	1052.9
10°	1037.1	1037.1	1037.1	1037.1	1037.1	1035.6	1037.1	1037.1
12.5°	1015.3	1015.3	1015.3	1016.8	1016.8	1015.3	1015.3	1013.9
15°	992.2	989.2	990.8	992.2	990.8	990.8	990.8	990.8
17.5°	960.3	961.8	960.3	960.3	960.3	960.3	961.8	960.3
20°	926.9	926.9	928.5	926.9	926.9	926.9	926.9	925.5
22.5°	889.3	887.9	887.9	889.3	889.3	887.9	889.3	889.3
25°	847.3	848.8	847.3	847.3	848.8	848.8	848.8	847.3
27.5°	802.5	803.9	805.3	803.9	803.9	803.9	805.3	806.7
30°	756.0	759.0	756.0	756.0	759.0	757.5	759.0	759.0
32.5°	706.8	711.2	708.3	711.2	711.2	712.6	711.2	712.6
35°	657.5	661.9	661.9	661.9	663.3	664.8	664.8	663.3
37.5°	611.2	612.6	612.6	615.6	617.0	618.4	618.4	617.0
40°	563.5	566.3	567.7	567.7	567.7	570.7	573.5	570.7
42.5°	517.1	518.5	520.0	520.0	522.9	524.3	525.8	525.8
45°	472.2	475.0	476.5	478.0	479.4	482.4	480.8	483.8
47.5°	425.9	430.1	431.7	433.1	435.9	437.5	438.9	440.3
50°	383.8	386.8	386.8	389.6	394.0	394.0	396.9	398.3
52.5°	341.8	343.3	344.7	346.2	349.0	352.0	352.0	354.8
55°	301.3	302.7	302.7	304.1	305.7	311.5	312.9	312.9
57.5°	259.2	259.2	262.2	263.6	265.0	268.0	268.0	268.0
60°	218.7	220.2	220.2	221.6	223.0	226.0	227.4	226.0
62.5°	178.1	179.5	179.5	181.1	183.9	185.3	183.9	183.9
65°	140.5	142.0	142.0	143.4	146.3	146.3	144.8	146.3
67.5°	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8
70°	65.1	63.7	62.3	63.7	63.7	63.7	62.3	65.1
72.5°	31.9	33.3	33.3	33.3	33.3	33.3	33.3	31.9
75°	14.5	14.5	13.0	13.0	13.0	14.5	14.5	13.0
77.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)